DEVELOPMENT OF A COMMUNITY CURRICULUM FOR A SUSTAINABLE WATER RESOURCES POLICY

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Abstract. As a part of a larger effort toward the fashioning of sustainable communities in Georgia (the Sustainable Communities Initiative), this workshop will develop a community curriculum to train the people of a community in the issues involved in developing a water resources policy that will enable a community to become sustainable.

SUSTAINABLE COMMUNITIES INITIATIVE

Mission and Approach

The mission statement of the Sustainable Communities Initiative is . . . "to create a network of communities throughout the Georgia region that commit themselves to establish a local initiative to bring together all the stakeholders of the community to work in concert toward sustainability whereby the local economic, environmental, social, and technological concerns work in harmony with each other to benefit all of society both now and for generations to come while making sure that the local structures enhance the possibility of sustainability in the larger, surrounding region." Within this context, the basic task of the Georgia Sustainable Communities Initiative is to establish : (1) local community initiatives to develop local strategies of sustainability and (2) a process by which those strategies are to be implemented.

The Georgia Sustainable Communities Initiative seeks to create local sustainability initiatives in various communities, cities, counties, and rural regions throughout the state of Georgia and the Georgia region. Each of these local initiatives will work independently of the others to ensure that the work is "home grown" with full participation by the many stakeholders in that particular initiative. Yet, cooperation will be sought among the various initiatives so stakeholders may learn from each other and help keep the momentum high at each site by the synergy created in the interaction.

Examples might be "Sustainable Rome," "Sustainable Glynn County," "Sustainable Tifton/Tift County," "Sustainable Columbus/Muscogee County," "Sustainable Savannah," "Sustainable Carver Hills," "Sustainable Gainesville," "Sustainable Keysville," "Sustainable Athens/Clarke County," "Sustainable Southern Coastal Region." To pinpoint which local communities will participate in this initiative, consultations will be held with local environmentalists throughout the state, the offices of the Governor and the Lt. Governor, officials of the Georgia Municipal Association and the Association of County Commissioners of Georgia, state senators and representatives, governmental agencies, chambers of commerce, local officials, clergy, and others.

A part of the charge to each local community will be to place at the center of all planning, programs, and policies concern for the environment, i.e., the air, water, and land. The local initiatives, in developing comprehensive strategies for local sustainability, will include multi-media dimensions--air, water, land--and address each medium in particular. Strategizing sets priorities, not only of vision and values, but also for action. Putting pollution prevention (a cornerstone of sustainability) into practice, concern for our natural resources, approaching land use from a new perspective, and programming for clean air, water, and land constitute priorities for the communities in their search for sustainability.

Training Local Citizens

As a means to this end, a period of 18 to 24 month shall be spent training local citizens in leadership skills and specific knowledge of a number of components that impact on sustainability within communities and dealing with the various issues involved in developing a sustainable community, including water resources and their utilization and conservation. The training and information sessions will prepare the communities for their task of becoming "sustainable"and for the process necessary for reaching that goal. Thresholds of community development will be established and indicators or benchmarks of sustainability will be pinpointed within each stage of development, both as

frameworks and as measures of sustainability for that community. From these, strategies of sustainability will be hammered out. How, then, can a community curriculum educate the citizenry of that community in issues dealing with water? That is the question before this workshop.

Related Sustainability Projects

Forum. GEO organized the Sustainability Round Table Information Forum on September 19, 1994, at the Georgia World Congress Center in Atlanta. That day-long conference helped introduce the concept of sustainability to leaders in Georgia. Some of those on the cutting edge of sustainability in Canada, Oregon, Minnesota, and elsewhere in the U.S. shared their insights and the history of sustainability throughout the world. The conference was co-sponsored by The Center for Sustainable Technology at Georgia Tech, Georgia Environmental Protection Division, Georgia Pollution Prevention Assistance Division, EnviroVision 96, the League of Women Voters of Georgia, and Southern States Energy Board.

Initiatives. The publication in 1995 of *Georgians on Sustainability* by GEO and the Institute of Ecology of the University of Georgia moved us forward into the next phase of developing a sustainable society in the Georgia Region. This phase comprises multiple tracks that develop simultaneously, complement each other, and give mutual strength, momentum, and guidance to each other:

* Georgia Roundtable on Sustainability to develop state-wide strategies of sustainability;
* Sustainable Communities Initiative;
* Sector studies which gather interested parties in one particular area together to explore ways to promote sustainability from within that discipline;
* Sustainability Parks designed around principles of sustainable environmental design (landscape architecture) and carry through the design and artifacts the message of sustainability as an avenue of education;
* A world wide web site--home page--to feature sustainable initiatives, activities and centers throughout the south: **http//www/sustainsouth.org.**

Teleconferences. In February 1995, GEO, Georgia Power, The Georgia Conservancy, RenewAmerica, and the Georgia League of Women Voters co-sponsored a teleconference on sustainability. One year later in February 1996, GEO, Southface, US Department of Energy, Renew America, and Georgia State University co-sponsored a conference on "Sustainable Communities" at the Urban Life Center of Georgia State University. It featured local success stories from communities, business (large and small), and government. Another one is planned for April 4, 1997, at the Atlanta Civic Center on "Environmentally Sustainable Energy Choices," co-sponsored by the same organizations as in 1996.

A Sustainable Approach to Water Resources Within The Local Community

In an overall sense, momentum toward sustainability must be created within a community which:
(1) places sustainability as the organizing principle at the heart of dialogue and decision-making within government, industry, commerce, non-governmental organizations, and everyday activities: * local business and industry begin to adopt sustainable practices; * local government entities become model sustainable enterprises through executive and councilor actions establishing sustainability as an official policy;
(2) establishes a collaborative process of representatives from various segments of society as the norm for decision-making in the community;
(3) encourages and supports those in the local community in their own quest for sustainability;
(4) coordinates the work of the Governor's Roundtable on Sustainability (which will be developing state-wide strategies of sustainability for use on the state level) with the work of the local initiatives.

A sense of community grows out of its history, its buildings and landmarks, its stories, and its art. Initiatives that emerge from local communities must be grounded in their history and built upon it. Strategies of sustainability cannot be created in a vacuum or borrowed from someone else. They must find seed in the local ground and be cultivated by local citizens as they seek new solutions and new possibilities for the long-range preservation of their community while preserving those historical treasures dotted around the landscape of their community. Historical preservation goes hand in hand with land preservation.

In summary, a basic principle underlying community sustainability is that the policies, process, programs, and projects
*must grow out of the interaction among all the stakeholders and *must emerge from within the community itself, its history and the present dynamics, and the confluence of natural resources.

Below are three essays to help begin the process in the workshop of developing the community curriculum. They are not intended as definitive but as"starters" on the way to arriving at a workable and useful curriculum.

ESSAY #1:
A BRIDGE TO THE FUTURE -- LOCAL SELF-RELIANCE
by Jerry Brown, Coosa River Basin Initiative

This is about bridges to the future. Our area of concentration is Rome and the Coosa River basin, so this is especially about those bridges. President Clinton wants America to build a bridge to the 21st century. It will not happen. Bridges to the future will be built by cities and towns,

one at a time, from different blueprints and different materials, over different obstacles, to different destinations. Some bridges will stand, some will fall, some will be swept away, and many an unfortunate community will awake to find itself traversing a toll bridge constructed by a multi-national economic engineering firm. Such is the nature of the emerging "global economy."

Almost every political jurisdiction in America engages in "land use planning." Almost every political jurisdiction in America hasn't a clear idea where is it is headed. Everyone wants to "grow," everyone wants "jobs," but almost no one is willing to define those two simple words and act upon community consensus of the definitions. To utilize an analogy: every city and town wants to play a game, but since they don't know exactly what the game is, they generally find themselves playing baseball on a football field or playing chess on a Chinese checker board. They don't need "a vision of the community in 20 years." They need definitions and unifying principles. "Local self-reliance" is a unifying principle. It is also an excellent bridge blueprint for Rome, the Coosa River basin, and, just maybe, your community as well.

Rome and Floyd County are fixin' to enter another round of "land use planning." A sizable segment of our community views this process -- with some justification -- as "zoning," and voices contempt by pronouncing the word with overtones verging on expectoration. A sizable segment of our community views the process as an inevitable accommodation to increasing population pressures and measures success by getting folks from point A to point B faster and more easily. Special interests, flying below detection limits, vie for special treatment with hopes of retaining or obtaining a significant slice of pie. By far the largest segment of our community is too absorbed "getting and spending,"watching The Price is Right or just plain making ends meet even to pay attention to planning.

Planning can be just plain boring. It usually is. The process generally works this way: elected officials, wary of stirring public ire, appoint a committee representing various "stakeholders" in the community, thus remaining one step removed from possible controversy. A consultant with "special skills and knowledge" is retained to assist the committee which generally works in relative isolation in reaching a fragile consensus with a minimum of kicking and gouging. The final result is a rather dry, boring, "fill-in-the-blanks" plan that assures us that no restaurant will utilize signage in excess of 5'7" in height, that no mobile home will appear in inappropriate locations, and sometimes exceptional bursts of creativity yield things like restored historic areas, denser subdivisions, or protection of select, highly visible, natural resources. Some consultants have more special knowledge than others, but it is difficult to tell because their "special skills" are invariable keeping their opinions to themselves, keeping participant focused on filling in the proper blank at the proper time, and keeping on schedule. A special treat is often the"vision statement" which starts: "In 20 years, I want Rome and Floyd county to look like....." In a stable world this process, though boring, is adequate.

In case you haven't noticed, Ozzie, Harriett, and Leave it to Beaver have jointed the saber toothed tiger, and we are settling securely into the interlocked arms of national and transnational economic interests that our Democratic and Republican "leaders" in Washington facilitate and smilingly refer to as "the global economy." Regular people from Bangor to Bangkok and from Rome to Rangoon are beginning to realize that something's up. What's up is this: Abusing the term "free enterprise" and waving whatever banner seems appropriate, immensely powerful economic forces are purchasing the "legal right" from the "leaders" of numerous states and nations to disrupt the lives and acquire the resources of unsuspecting communities. Jobs are transferred overseas. Banks and hospitals are swallowed. "Gated communities" appear. Forests and topsoil disappear. Displaced indigenous peoples appear walking in the street thousands of miles from home. Competition, of course, we are told, necessitates pollution. And the list goes on. Essentially, what we have is "global economic anarchy" with the only short term comfort being that the achievable alternatives may well be worse. In case you are wondering, this probably is not good.

For several reasons we, in Rome, are uniquely positioned to react, in a positive way, to this sorry state of affairs. That's just the point. Every community, out of its uniqueness, must react in a positive way to this sorry state of affairs, whatever that uniqueness is. One cannot talk about water and sustainability in an area without first understanding what the uniqueness of the area is and how that uniqueness can be tapped to build a solid, sustainable future.

In the future the world will be divided into two basic types of communities. Those who harvest and those who are harvested. Because self-reliant communities will have choices, they will be among those who harvest: food from healthy, locally grown crops; workers from well-educated, local citizenry; homes from energy-efficient local resources; heroes from an active, involved local citizenry; and trade, goods, and services from natural resources that are turned to finished products locally. Let me see, have I left out one? Yes, water from clear flowing streams and rivers that are unpolluted by industry, agriculture, residential use, and other run-off.

In short, self-reliant communities will not be isolationist. They will engage "the global economy" on their own terms -- not the terms dictated by outside forces. Planning is not getting from Point A to Point B more rapidly. Planning is how an entire community gets from the past to the future intact, improved, and on the top.

Some readers know the Coosa River Basin Initiative [CRBI] as an environmental "watchdog." This is a necessary function that, by both default and design, we have chosen to fulfill. Throughout the Coosa Basin, CRBI has been fulfilling another necessary function: that of developing a "watershed consciousness" -- not some fuzzy, dizzy, tree-hugging, new age concept -- but recognition among people from Bradley County, Tennessee to Montgomery, Alabama that our God-given home

is the Coosa Basin and that within this home a sound economy and a clean environment are two sides of the same coin. The message is responsibility, not federal responsibility, not state responsibility, but individual and local responsibility. No one will or should be allowed to take care of us except ourselves. Protection of our resources should be based upon two primary human motivations: (1) Consideration of others: it is not polite to poison your neighbors or to contaminate their resources or to steal them; (2) Greed: clean air and clean water are an excellent investment, worth developing and protecting ‡ the dollar value is high and multiplying rapidly.

ESSAY #2:

COMMUNITY BEHAVIOR AND A SUSTAINABLE APPROACH TO WATER USE

Marshall Gaddis, Co-Director, Middle Georgia Regional Training Center; Brian Mumma, Assistant Professor, Georgia College and State University; Edwin Speir, Community Leader and President (on leave), Georgia College and State University

Water quality has improved in Georgia over the past 30 years. This is due to improvements in wastewater treatment at point source discharges. It is generally accepted that further improve-ment of water quality will need to come through reduction of nonpoint source pollution. Reduction of nonpoint source pollution will require a change in behavior on the part of almost all citizens of the state.

Individual and community behavior will need to change if meaningful improvement in water quality is to be addressed. Individual behavior will need to change with respect to: buying habits, voting, home maintenance, land management, and our approach to problem solving

We need to consider the environment, including water quality, when we make purchases. We need to buy more recyclable goods and less packaging. We need to consider candidates' records on environmental issues before supporting them with our votes. We need to let candidates know that water quality and responsible land use are important to us. We need to let candidates, as well as elected officials and appointed personnel, know we expect results from environmental efforts. We need to educate ourselves and our children. Finally, we, as individuals, need to set an example by being responsible and environmentally conscious citizens.

Community behavior must change if meaningful improvement in water quality is to be accomplished. The public awareness of water quality must be raised at every opportunity. Water quality needs to be considered in every decision made by government organizations. The question asked should be: "How will this decision affect the quality of the water for our grandchildren?"

Education is the key to changing community behavior. Environmental education must not be limited to a few hours in some grade levels. It must be directed towards all citizens, particularly community leaders, elected officials, and appointed/agency personnel.

Any successful project that includes changing individual or community behavior must have four elements. These are vision, process, education, and enforcement. (1) The vision is the picture of the successful result. It is the responsibility of the leadership to paint this picture so that everyone involved will see the end result. In the case of water quality this would be a clear, clean waterway with appropriate buffer zone and a healthy flora and fauna. (2) The process is all the structures, equipment, employees, laws, ordinances and systems necessary to accomplish the vision. Here is where most of the costs are found. This is a big part of a successful project - but without the other three, it is doomed to failure. (3) The importance of the third element, education, cannot be overstated. All people must be educated regarding the project. The leaders must understand their jobs; the public must understand what is expected of them. (4) The final element is enforcement. The result of not changing behavior must be uncomfortable or expensive enough as to strongly encourage the desired change. Water quality can be improved through control of nonpoint sources but change in behavior will be necessary. We must recognize there is value in having clean, clear, and healthy waterways. We must also recognize that some land uses have value far beyond the value to the land owner.

ESSAY #3:

THE ALABAMA WATER WATCH PROGRAM AND CITIZEN VOLUNTEER MONITORING

by Dr. William Deutsch, Auburn University

The Alabama Water Watch is a program dedicated to developing Citizen Volunteer Monitoring of Alabama's lakes, streams and wetlands. It is funded, in part, by a grant from the U.S. Environmental Protection Agency (EPA) and the Alabama Department of Environmental Management (ADEM), and is coordinated through the Department of Fisheries and Allied Aquacultures and the International Center for Aquaculture and Aquatic Environments of Auburn University. The goals of the Alabama Water Watch Program are primarily accomplished through: (a) educating citizens about water issues in Alabama and the world, (b) training and equipping them to measure water quality conditions at sites of concern, and (c) challenging citizens to "make a difference" and potentially improve environmental policy by actively participating in determining long-term water quality trends and specific problems that need attention.

Basic Certification Workshops (6-hour) are conducted in which citizens are trained and equipped to monitor and evaluate physical, chemical and biological features of water. Six water quality parameters, measured with a customized test kit, form the core of the citizen data: water temperature, pH, total alkalinity, total hardness, dissolved oxygen, turbidity.

Training in biological assessments uses include: (1) an environmental game called BIO-ASSESS, and (2) field collection and evaluation of stream macroinvertebrate communities.

As of December, 1996, nearly 2,000 people have attended basic Certification Workshops to become water quality monitors. Over 160 water quality test kits have been distributed. Sixty-three citizen groups have participated in the Alabama Water Watch since the program started in 1993, and 46 groups are currently active. Active groups are those who have sent in data within the last six months. Nearly 50% of the groups are formed by teachers and their students. Monitoring has occurred on 456 sites on 211 water bodies, and 3,169 data forms have been received.

One of the most important aspects of a citizen monitoring program is to "keep the data credible" through an effective Quality Assurance (QA) Program. A Quality Assurance/Quality Control Manual for statewide Citizen Volunteer Water Quality Data was submitted to ADEM and U.S. EPA in June 1994, as one of the first statewide citizen data QA protocols in the U.S., and approved in September 1994. It addresses 16 elements of data collection and processing, and has subsequently been used for annual recertification of monitors and test kits.

Alabama Water Watch citizen data have been received from each of the 10 major watersheds in Alabama, and all data have been entered into a computer database. This information is summarized, graphed, interpreted and presented to the monitors, policy makers and other interested citizens through the semi-annual Alabama Water Watch Newsletter and the bimonthly "WQ" Bulletin. Greatest participation in the program has occurred in the Coosa, Mobile, Tennessee and Tallapoosa watersheds. Efforts are being made to fortify the program in the western and southern part of the state.

A series of Training of Trainers Workshops was held from March-November 1995 and November 1996 and will result in about seven citizen trainers statewide. An Alabama Water Watch Teacher Coordinator was added to the staff of Troy State University in June, 1995, and a Volunteer Monitor Coordinator joined the Alabama Water Watch staff at Auburn University in February, 1996.

Several citizen monitoring groups incorporated to form the Alabama WaterWatch Association (AWWA) in September, 1995. The AWWA has a 16-member citizen Board of Directors who were trained to conduct Basic Certification Workshops. The AWWA has formed a Citizen Advisory Council that periodically meets with ADEM to address water issues and citizen concerns.